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NPIC/TDS/D-761-67
23 March 1967

MEMORANDUM FOR: Chief, Exploitation Systems Branch

SUBJECT : Evaluation of [] Twin Light Source Table with
Measuring Stage

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1. The subject project is an extension of the original Twin Light Source Table design built by []. The unique features of this instrument are the following.

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A. The design was specifically implemented to include the Wide Span Rhomboid Attachment for the [] Zoom 70 as well as the other microstereoscopes that the original instrument accommodated.

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B. A scanning stage with a measuring capability was included in the design.

2. The philosophy of this project was to configure the light table in an extremely compact envelope, while providing a large illuminated viewing area (two 6x6 inch areas). [] has been very successful in keeping the size to an absolute minimum. The thickness of the light box and scanning stage is extremely small considering all the components that utilize that volume. As a result of this limitation in size there might be some objection to the operation or the smoothness of the scanning stage. To improve the scanning uniformity, the size of the translating mechanism would have to be increased, thereby increasing the eyepoint of the microstereoscopes. Possibly only a slight increase in the rigidity of these components would substantially increase the performance. This compromise will be explored if production versions are required.

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3. The mechanism to release the stage from the screw drive must be improved in production versions. It was a last minute addition and is adequate at best.

4. The accuracy of the measuring stage is shown in the attached figure and taking the pointing error into account the instrument certainly meets the specification (least count to .0001 foot and accuracy of .0001 ft/inch.)

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5. The light source is extremely uniform and bright (approximately 3500 ft-lamberts maximum) and has virtually no flicker.

6. The only other feature that should be modified on the production versions is the mounting of the microstereoscope support slide to the main housing. In the present model there is a slight flexing in the housing structure causing a slight vibration in the optical path.

7. Overall the contractor performed above average on this fixed price effort.

[]
Development Staff, TDS

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1. Accuracy looks marginal in the 55-75 min zone,
2. I concur that improvement in rigidity is required.